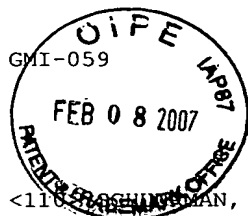


GMI-059



## SEQUENCE LISTING

<110> ~~BRUSH~~MAN, JANINE  
 HAVENITH, KARIN  
 PARREN, PAUL  
 VAN DE WINKEL, JAN  
 WILLIAMS, DENISE LEAH  
 PETERSEN, JORGEN  
 BAADSGAARD, OLE

<120> HUMAN MONOCLONAL ANTIBODIES AGAINST CD25

<130> GMI-059

<140> 10/714,353

<141> 2003-11-14

<150> 60/426,690

<151> 2002-11-15

<160> 74

<170> PatentIn Ver. 3.3

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tcg gtg aaa gtc tcc tgc aag gct tct gga ggc acc ttc agc cgt tat	96
Ser Val Lys Val Ser Cys Lys Ala Ser Gly Gly Thr Phe Ser Arg Tyr	
20 25 30	
cct atc aac tgg gtg cga cag gcc cct gga caa ggg ctt gag tgg atg	144
Pro Ile Asn Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met	
35 40 45	
gga agg atc atc cct atc ctt ggt ata gca gac tac gca cag agg ttc	192
Gly Arg Ile Ile Pro Ile Leu Gly Ile Ala Asp Tyr Ala Gln Arg Phe	
50 55 60	
cag ggc aga gtc acg att acc gcg gac aaa tcc acg aac aca gcc tac	240
Gln Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Asn Thr Ala Tyr	
65 70 75 80	
atg gag ctg agc agc ctg aga tct gag gac acg gcc gtg tat tat tgt	288
Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys	
85 90 95	
gcg agg agg gac tgg gga gac tac tgg ggc cag gga acc ctg gtc acc	336
Ala Arg Arg Asp Trp Gly Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr	
100 105 110	
gtc tcc tca gcc tcc acc aag ggc cca tcg gtc ttc ccc ctg gca	381

Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala  
 115 120 125

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 <212> PRT  
 <213> Homo sapiens

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 20 25 30  
 Pro Ile Asn Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met  
 35 40 45  
 Gly Arg Ile Ile Pro Ile Leu Gly Ile Ala Asp Tyr Ala Gln Arg Phe  
 50 55 60  
 Gln Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Asn Thr Ala Tyr  
 65 70 75 80  
 Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys  
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 100 105 110  
 Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala  
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<220>  
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 1 5 10 15  
 gat acc acc gga gaa att gtg ttg acg cag tct cca ggc acc ctg tct 96  
 Asp Thr Thr Gly Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser  
 20 25 30  
 ttg tct cca ggg gaa aga gcc acc ctc tcc tgc agg gcc agt cag agt 144  
 Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser  
 35 40 45  
 gtt agc agc agc ttc tta gcc tgg tac cag cag aaa cct ggc cag gct 192  
 Val Ser Ser Ser Phe Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala  
 50 55 60  
 ccc agg ctc ctc atc tat ggt gca tcc agc agg gcc act ggc atc cca 240

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Pro Arg Leu Leu Ile Tyr Gly Ala Ser Ser Arg Ala Thr Gly Ile Pro
65          70          75          80

gac agg ttc agt ggc agt ggg tct ggg aca gac ttc act ctc acc atc 288
Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile
85          90          95

agc aga ctg gag cct gaa gat ttt gca gtg tat tac tgt cag cag tat 336
Ser Arg Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr
100        105        110

agt agc tca ccg ctc act ttc ggc gga ggg acc aag gtg gag atc aaa 384
Ser Ser Ser Pro Leu Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
115        120        125

cga act gtg gct gca cca tct gtc ttc atc ttc ccg 420
Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro
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<213> Homo sapiens

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Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser
35        40        45

Val Ser Ser Ser Phe Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala
50        55        60

Pro Arg Leu Leu Ile Tyr Gly Ala Ser Ser Arg Ala Thr Gly Ile Pro
65          70          75          80

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile
85          90          95

Ser Arg Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr
100        105        110

Ser Ser Ser Pro Leu Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
115        120        125

Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro
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 1 5 10 15

tcg gtg aag gtc tcc tgc aag gct tct gga ggc acc ttc agc aga tat 96  
 Ser Val Lys Val Ser Cys Lys Ala Ser Gly Gly Thr Phe Ser Arg Tyr  
 20 25 30

gct atc aac tgg gtg cga cag gcc cct gga caa gga ctt gag tgg atg 144  
 Ala Ile Asn Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met  
 35 40 45

gga agg atc atc cct atc ctt gat ata gca gac tac gca cag aag ttc 192  
 Gly Arg Ile Ile Pro Ile Leu Asp Ile Ala Asp Tyr Ala Gln Lys Phe  
 50 55 60

cag gac aga gtc acg att acc gcg gac aag tcc acg aac aca gcc tac 240  
 Gln Asp Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Asn Thr Ala Tyr  
 65 70 75 80

atg gag ctg agc agc ctg aga tct gag gac acg gcc gtg tat tac tgt 288  
 Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys  
 85 90 95

gcg aga aag gac tgg ttc gac ccc tgg ggc cag gga acc ctg gtc acc 336  
 Ala Arg Lys Asp Trp Phe Asp Pro Trp Gly Gln Gly Thr Leu Val Thr  
 100 105 110

gtc tcc tca gcc tcc acc aag ggc cca tcg gtc ttc ccc ctg gca 381  
 Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala  
 115 120 125

&lt;210&gt; 6

&lt;211&gt; 127

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 6

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser  
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Ser Val Lys Val Ser Cys Lys Ala Ser Gly Gly Thr Phe Ser Arg Tyr  
 20 25 30

Ala Ile Asn Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met  
 35 40 45

Gly Arg Ile Ile Pro Ile Leu Asp Ile Ala Asp Tyr Ala Gln Lys Phe  
 50 55 60

Gln Asp Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Asn Thr Ala Tyr  
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys  
 85 90 95

Ala Arg Lys Asp Trp Phe Asp Pro Trp Gly Gln Gly Thr Leu Val Thr  
 100 105 110

Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala

115

120

125

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 <222> (1)..(420)

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 1 5 10 15  
 gat atc acc gga gaa aat gtg ttg acg cag tct cca ggc acc ctg tct 96  
 Asp Ile Thr Gly Glu Asn Val Leu Thr Gln Ser Pro Gly Thr Leu Ser  
 20 25 30  
 ctg tct cca ggg gaa aga gcc acc ctc tcc tgc agg gcc agt cag agt 144  
 Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser  
 35 40 45  
 ggt agc agc agc tac tta gcc tgg tac cag cag aaa cct ggc cag gct 192  
 Gly Ser Ser Ser Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala  
 50 55 60  
 ccc agg ctc ctc atc tat ggt gca tcc agt agg gcc act ggc atc cca 240  
 Pro Arg Leu Leu Ile Tyr Gly Ala Ser Ser Arg Ala Thr Gly Ile Pro  
 65 70 75 80  
 gac agg ttc agt ggc agt ggg tct ggg aca gac ttc act ctc acc atc 288  
 Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile  
 85 90 95  
 agc aga ctg gag cct gaa gat ttt gca gtg tat tac tgt cag cag tat 336  
 Ser Arg Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr  
 100 105 110  
 ggt agt tca ccg atc acc ttc ggc caa ggg aca cga ctg gag att aaa 384  
 Gly Ser Ser Pro Ile Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys  
 115 120 125  
 cga act gtg gct gca cca tct gtc ttc atc ttc ccc 420  
 Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro  
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 <213> Homo sapiens

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 20 25 30

Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser  
           35                          40                          45  
 Gly Ser Ser Ser Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala  
       50                          55                          60  
 Pro Arg Leu Leu Ile Tyr Gly Ala Ser Ser Arg Ala Thr Gly Ile Pro  
       65                          70                          75                          80  
 Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile  
                   85                          90                          95  
 Ser Arg Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr  
           100                          105                          110  
 Gly Ser Ser Pro Ile Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys  
       115                          120                          125  
 Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro  
       130                          135                          140

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 <221> CDS  
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 tcg gtg aaa gtc tcc tgc aag gct tct gga ggc acc ttc agc cgt tat 96  
 Ser Val Lys Val Ser Cys Lys Ala Ser Gly Gly Thr Phe Ser Arg Tyr  
           20                          25                          30  
 cct atc aac tgg gtg cga cag gcc cct gga caa ggg ctt gag tgg atg 144  
 Pro Ile Asn Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met  
       35                          40                          45  
 gga agg atc atc cct atc ctt ggt ata gca gac tac gca cag agg ttc 192  
 Gly Arg Ile Ile Pro Ile Leu Gly Ile Ala Asp Tyr Ala Gln Arg Phe  
       50                          55                          60  
 cag ggc aga gtc acg att acc gcg gac aaa ttc acg aac aca gcc tac 240  
 Gln Gly Arg Val Thr Ile Thr Ala Asp Lys Phe Thr Asn Thr Ala Tyr  
       65                          70                          75                          80  
 atg gag ctg agc agc ctg aga tct gag gac acg gcc gtg tat tat tgt 288  
 Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys  
           85                          90                          95  
 gcg agg agg gac tgg gga gac tac tgg ggc cag gga acc ctg gtc acc 336  
 Ala Arg Arg Asp Trp Gly Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr  
           100                          105                          110  
 gtc tcc tca gcc tcc acc aag ggc cca tcg gtc ttc ccc ctg gca 381  
 Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala

115 120 125

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 <212> PRT  
 <213> Homo sapiens

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 Ser Val Lys Val Ser Cys Lys Ala Ser Gly Gly Thr Phe Ser Arg Tyr  
 20 25 30  
 Pro Ile Asn Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met  
 35 40 45  
 Gly Arg Ile Ile Pro Ile Leu Gly Ile Ala Asp Tyr Ala Gln Arg Phe  
 50 55 60  
 Gln Gly Arg Val Thr Ile Thr Ala Asp Lys Phe Thr Asn Thr Ala Tyr  
 65 70 75 80  
 Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys  
 85 90 95  
 Ala Arg Arg Asp Trp Gly Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr  
 100 105 110  
 Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala  
 115 120 125

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<400> 11  
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 1 5 10 15  
 gat acc acc gga gaa att gtg ttg acg cag tct cca ggc acc ctg tct 96  
 Asp Thr Thr Gly Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser  
 20 25 30  
 ttg tct cca ggg gaa aga gcc acc ctc tcc tgc agg gcc agt cag agt 144  
 Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser  
 35 40 45  
 gtt agc agc agc ttc tta gcc tgg tac cag cag aaa cct ggc cag gct 192  
 Val Ser Ser Ser Phe Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala  
 50 55 60  
 ccc agg ctc ctc atc tat ggt gca tcc agc agg gcc act ggc atc cca 240  
 Pro Arg Leu Leu Ile Tyr Gly Ala Ser Ser Arg Ala Thr Gly Ile Pro

65	70	75	80	
gac agg ttc agt ggc agt ggg tct ggg aca gac ttc act ctc acc atc				288
Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile	85	90	95	
agc aga ctg gag cct gaa gat ttt gca gtg tat tac tgt cag cag tat				336
Ser Arg Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr	100	105	110	
agt agc tca ccg ctc act ttc ggc gga ggg acc aag gtg gag atc aaa				384
Ser Ser Ser Pro Leu Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys	115	120	125	
cga act gtg gct gca cca tct gtc ttc atc ttc ccc g				421
Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro	130	135	140	

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Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser	
35 40 45	
Val Ser Ser Ser Phe Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala	
50 55 60	
Pro Arg Leu Leu Ile Tyr Gly Ala Ser Ser Arg Ala Thr Gly Ile Pro	
65 70 75 80	
Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile	
85 90 95	
Ser Arg Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr	
100 105 110	
Ser Ser Ser Pro Leu Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys	
115 120 125	
Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro	
130 135 140	

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Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser
  1           5           10           15

tcg gtg aag gtc tcc tgc aag gct tct gga ggc acc ttc agc agg tat 96
Ser Val Lys Val Ser Cys Lys Ala Ser Gly Gly Thr Phe Ser Arg Tyr
          20           25           30

att atc aac tgg gtg cga cag gcc cct gga caa ggg ctt gag tgg atg 144
Ile Ile Asn Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
          35           40           45

gga agg atc atc cct atc ctt ggt gta gaa aac tac gca cag aag ttc 192
Gly Arg Ile Ile Pro Ile Leu Gly Val Glu Asn Tyr Ala Gln Lys Phe
          50           55           60

cag ggc aga gtc acg att acc gcg gac aaa tcc acg agc aca gcc tac 240
Gln Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr
          65           70           75           80

atg gag ctg agc agc ctg aga tct gag gac acg gcc gtg tat tac tgt 288
Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
          85           90           95

gcg aga aag gac tgg ttt gat tac tgg ggc cag gga acc ctg gtc acc 336
Ala Arg Lys Asp Trp Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr
          100           105           110

gtc tcc tca gcc tcc acc aag ggc cca tcg gtc ttc ccc ctg gca 381
Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala
          115           120           125

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&lt;210&gt; 14

&lt;211&gt; 127

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 14

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Ser Val Lys Val Ser Cys Lys Ala Ser Gly Gly Thr Phe Ser Arg Tyr
          20           25           30

Ile Ile Asn Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
          35           40           45

Gly Arg Ile Ile Pro Ile Leu Gly Val Glu Asn Tyr Ala Gln Lys Phe
          50           55           60

Gln Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr
          65           70           75           80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
          85           90           95

Ala Arg Lys Asp Trp Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr
          100           105           110

Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala
          115           120           125

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 1 5 10 15

gat acc acc gga gaa att gtg ttg acg cag tct cca ggc acc ctg tct 96  
 Asp Thr Thr Gly Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser  
 20 25 30

ttg tct cca ggg gaa aga gcc acc ctc tcc tgc agg gcc agt cag agt 144  
 Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser  
 35 40 45

gtt agc agc tac tta gcc tgg tac cag cag aaa cct ggc cag gct ccc 192  
 Val Ser Ser Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro  
 50 55 60

agg ctc ctc atc tat ggt gca tcc agc agg gcc act ggc atc cca gac 240  
 Arg Leu Leu Ile Tyr Gly Ala Ser Ser Arg Ala Thr Gly Ile Pro Asp  
 65 70 75 80

agg ttc agt ggc agt ggg tct ggg aca gac ttc act ctc acc atc agc 288  
 Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser  
 85 90 95

aga ctg gag cct gaa gat ttt gca gtg tat tac tgt cag cag tat ggt 336  
 Arg Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Gly  
 100 105 110

agc tca ccg ctc act ttc ggc gga ggg acc aag gtg gag atc aaa cga 384  
 Ser Ser Pro Leu Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg  
 115 120 125

act gtg gct gca cca tct gtc ttc atc ttc ccc g 418  
 Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro  
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<210> 16  
 <211> 139  
 <212> PRT  
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<400> 16  
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Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser

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Val	Ser	Ser	Tyr	Leu	Ala	Trp	Tyr	Gln	Gln	Lys	Pro	Gly	Gln	Ala	Pro				
	50					55					60								
Arg	Leu	Leu	Ile	Tyr	Gly	Ala	Ser	Ser	Arg	Ala	Thr	Gly	Ile	Pro	Asp				
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Arg	Leu	Glu	Pro	Glu	Asp	Phe	Ala	Val	Tyr	Tyr	Cys	Gln	Gln	Tyr	Gly				
			100					105					110						
Ser	Ser	Pro	Leu	Thr	Phe	Gly	Gly	Gly	Thr	Lys	Val	Glu	Ile	Lys	Arg				
		115					120					125							
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	130					135													

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<210> 18  
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Gly

<210> 19  
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 <212> PRT  
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<210> 20  
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 <212> PRT  
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<400> 20  
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<210> 21  
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 <212> PRT  
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<210> 22  
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<400> 22  
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<210> 23  
 <211> 5  
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<400> 23  
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<210> 24  
 <211> 17  
 <212> PRT  
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<210> 26  
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<400> 26  
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<210> 27  
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<400> 27  
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           1                  5

<210> 28  
 <211> 9  
 <212> PRT  
 <213> Homo sapiens

<400> 28  
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<210> 29  
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 <212> PRT  
 <213> Homo sapiens

<400> 29  
 Arg Tyr Pro Ile Asn  
           1                  5

<210> 30  
 <211> 17  
 <212> PRT  
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<400> 30  
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Gly

<210> 31  
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<400> 31  
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<210> 32  
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<400> 32  
 Arg Ala Ser Gln Ser Val Ser Ser Ser Phe Leu Ala  
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 <212> PRT  
 <213> Homo sapiens

<400> 33  
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       1                      5

<210> 34  
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 <212> PRT  
 <213> Homo sapiens

<400> 34  
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<210> 35  
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 <212> PRT  
 <213> Homo sapiens

<400> 35  
 Arg Tyr Ile Ile Asn  
       1                      5

<210> 36  
 <211> 17  
 <212> PRT  
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<400> 36  
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Gly

<210> 37  
 <211> 6  
 <212> PRT  
 <213> Homo sapiens

<400> 37  
 Lys Asp Trp Phe Asp Tyr  
       1                      5

<210> 38  
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<400> 38  
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<210> 39  
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<400> 39  
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<210> 40  
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 <212> PRT  
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<400> 40  
 Gln Gln Tyr Gly Ser Ser Pro Leu Thr  
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<210> 42  
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 <212> DNA  
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<400> 42  
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<210> 43  
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 <212> DNA  
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<400> 43  
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<210> 44  
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<210> 45  
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<400> 45  
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<210> 52  
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<210> 54  
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<400> 56  
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<400> 57  
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<400> 58  
ccctgctcag ctctggggc tgc 23

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<400> 59  
cccagcgcag cttctcttcc tcctgc 26

<210> 60  
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<400> 60  
atggaaccat ggaagcccca gcacagc 27

<210> 61  
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<212> DNA  
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<400> 61  
cggaagatg aagacagatg 20

<210> 62  
<211> 5  
<212> PRT  
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<220>  
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<222> (3)  
<223> Ala, Ile or Pro

<400> 62  
Arg Tyr Xaa Ile Asn  
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<210> 63  
<211> 17  
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<220>  
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<223> any natural occurring amino acid; see specification as  
filed for detailed description of preferred embodiments

<220>  
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filed for detailed description of preferred embodiments

<220>  
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filed for detailed description of preferred embodiments

<220>  
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 filed for detailed description of preferred embodiments

<220>  
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 <222> (17)  
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 filed for detailed description of preferred embodiments

<400> 63  
 Arg Ile Ile Pro Ile Leu Gly Xaa Xaa Xaa Tyr Ala Gln Xaa Phe Gln  
           1                  5                  10                  15

Xaa

<210> 64  
 <211> 17  
 <212> PRT  
 <213> Homo sapiens

<220>  
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 <223> Ile, Val, Gly, Ala or Leu

<220>  
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 <222> (9)  
 <223> Ala, Ile, Val, Gly, Leu, Glu or Asp

<220>  
 <221> MOD\_RES  
 <222> (10)  
 <223> Asp, Glu, Asn or Gln

<220>  
 <221> MOD\_RES  
 <222> (14)  
 <223> Lys, Arg or His

<220>  
 <221> MOD\_RES  
 <222> (17)  
 <223> Gly, Ile, Val, Ala, Leu, Asp or Glu

<400> 64  
 Arg Ile Ile Pro Ile Leu Gly Xaa Xaa Xaa Tyr Ala Gln Xaa Phe Gln  
           1                  5                  10                  15

Xaa

<210> 65  
 <211> 17

<212> PRT  
 <213> Homo sapiens

<220>  
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 <222> (8)  
 <223> Ile or Val

<220>  
 <221> MOD\_RES  
 <222> (9)  
 <223> Ala or Glu

<220>  
 <221> MOD\_RES  
 <222> (10)  
 <223> Asp or Asn

<220>  
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 <222> (14)  
 <223> Lys or Arg

<220>  
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 <222> (17)  
 <223> Gly or Asp

<400> 65  
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           1                  5                  10                  15

Xaa

<210> 66  
 <211> 11  
 <212> PRT  
 <213> Homo sapiens

<220>  
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           filed for detailed description of preferred embodiments

<220>  
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 <222> (9)  
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           filed for detailed description of preferred embodiments

<400> 66  
 Arg Ala Ser Gln Ser Xaa Ser Ser Xaa Leu Ala  
           1                  5                  10

<210> 67  
 <211> 11  
 <212> PRT  
 <213> Homo sapiens

<220>  
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 <222> (6)  
 <223> Val, Ala, Leu, Ile or Gly

<220>  
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 <222> (9)  
 <223> Phe, Trp or Tyr

<400> 67  
 Arg Ala Ser Gln Ser Xaa Ser Ser Xaa Leu Ala  
           1                  5                  10

<210> 68  
 <211> 11  
 <212> PRT  
 <213> Homo sapiens

<220>  
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 <222> (6)  
 <223> Val or Gly

<220>  
 <221> MOD\_RES  
 <222> (9)  
 <223> Phe or Tyr

<400> 68  
 Arg Ala Ser Gln Ser Xaa Ser Ser Xaa Leu Ala  
           1                  5                  10

<210> 69  
 <211> 9  
 <212> PRT  
 <213> Homo sapiens

<220>  
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 <223> Gly, Ala, Val, Leu, Ile, Ser or Thr

<220>  
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 <222> (8)  
 <223> Leu, Gly, Ala, Val or Ile

<220>  
 <221> MOD\_RES  
 <222> (9)  
 <223> Thr or Ser

<400> 69  
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<210> 70  
 <211> 9  
 <212> PRT

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; MOD\_RES

&lt;222&gt; (4)

&lt;223&gt; Gly or Ser

&lt;220&gt;

&lt;221&gt; MOD\_RES

&lt;222&gt; (8)

&lt;223&gt; Leu or Ile

&lt;400&gt; 70

Gln Gln Tyr Xaa Ser Ser Pro Xaa Thr

1

5

&lt;210&gt; 71

&lt;211&gt; 96

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 71

Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly

1

5

10

15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ser Ser

20

25

30

Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu

35

40

45

Ile Tyr Gly Ala Ser Ser Arg Ala Thr Gly Ile Pro Asp Arg Phe Ser

50

55

60

Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu Glu

65

70

75

80

Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Gly Ser Ser Pro

85

90

95

&lt;210&gt; 72

&lt;211&gt; 98

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 72

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser

1

5

10

15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Gly Thr Phe Ser Ser Tyr

20

25

30

Ala Ile Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met

35

40

45

Gly Arg Ile Ile Pro Ile Leu Gly Ile Ala Asn Tyr Ala Gln Lys Phe

50

55

60

GMI-059

Gln Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr  
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys  
85 90 95

Ala Arg

<210> 73  
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<220>  
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filed for detailed description of preferred embodiments

<220>  
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<223> any natural occurring amino acid; see specification as  
filed for detailed description of preferred embodiments

<220>  
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<222> (5)  
<223> any natural occurring amino acid; see specification as  
filed for detailed description of preferred embodiments

<400> 73  
Xaa Tyr Xaa Ile Xaa  
1 5

<210> 74  
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<212> PRT  
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<220>  
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<220>  
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<222> (3)  
<223> Ala, Gly, Val, Leu, Ile or Pro

<220>  
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<400> 74  
Xaa Tyr Xaa Ile Xaa  
1 5